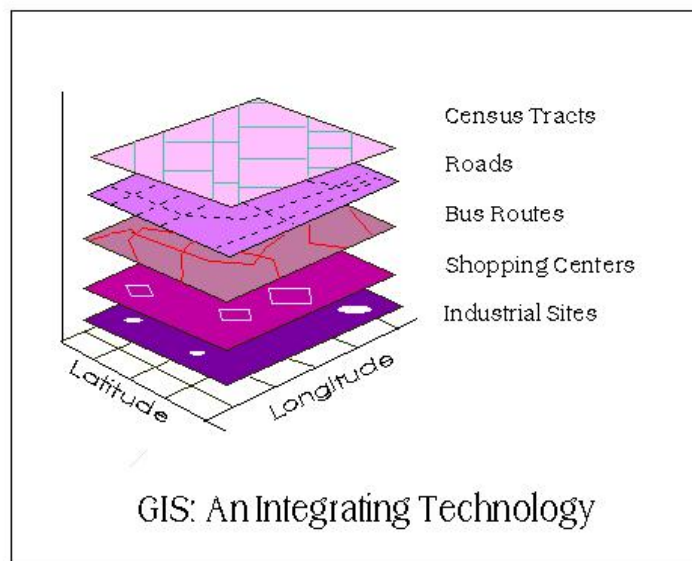


Tammie Grant

GIS Training for Native Americans

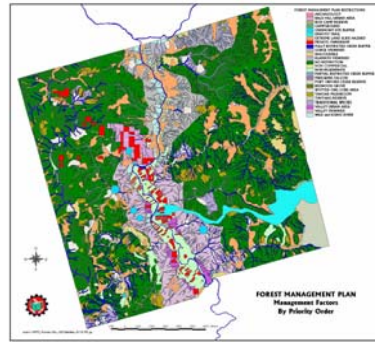
I would like to introduce our Native American Training Program with you today. First, I will briefly describe the program to you and then I will introduce three Native Americans from our program. Kim Colegrove from the Hoopa Tribe in Northern California, Tony O'Rourke from the Yurok Tribe in Northern California and Derrick Lente from the Sandia Pueblo in New Mexico are all participants in the GIS Training Program for Native Americans. Dr. Ali Modarres will make a few closing comments following our three speakers.

What is GIS? It stands for Geographic Information Systems and has been around for over 20 years. GIS provides us with the ability to see layers of information together in a single dataset. It has the capacity to store, analyze, and display data in one integrated layer providing users with a unique spatial view. As you can see in the example, you can layer as many pieces of information in a GIS. Here we have layers of Census Tracts, Roads, Bus Routes, Shopping Centers, and Industrial Sites. A GIS will combine these data and integrate the information in such a way as to give a unique integrated view.



The GIS software we use is made by ESRI and it is called ArcView. It runs on a windows environment, with a main window with many function buttons, a graphics view, a project window, and a tabular data window. These are the most common windows one typically uses while working with ArcView.

This is what it produces, beautiful maps!



This map was generated by the Forestry Group of the Hoopa Tribe. It is a Forest Management Map showing areas of vegetation that may/maynot be logged. This is also a special place in that Hoopa decided over 20 years ago to adopt a sustainable forestry management plan, the first one in the US. And today you can see the difference - Lots of forests still in tact. The green shows all the forest reserves currently available for logging. The other colors depict areas under restriction from logging due to Endangered Species Habitat, steep slopes, or cultural sites. Hoopa is an enchanted place in that the mountains are full of forests of old growth redwoods and Douglas Fir and their network of rivers and streams are full of specimen fish such as salmon. In fact when I arrived at Hoopa last week one of the tribal members just caught a 47lb salmon in the river that flows right through the reservation.

Why GIS Training? We will that GIS is the ammunition to address the issues faced today by Native Americans. Water rights issues and boundary disputes are always battles being fought on Indian Land. GIS also provides the tribal members with jobs, high paying jobs in a high tech environment.

Who Are We Training? Native Americans in California and New Mexico. With James Harrington's support since June this year we have trained 43 Tribal people in California and 14 in New Mexico. We work with people already in the workforce employed by their tribal governments.

Our Curriculum design and development is based on three of our experienced staff, Dr. Ali Modarres, his student Marcos Luna and myself Tammie Grant. Together we developed the manuals based on the most common GIS functions and concepts. WE designed the manuals to be an easy step by step process and filled the manuals with the graphic windows that appear in the software program, ArcView. The courses we offer include:

- Beginning ArcView,
- Intermediate ArcView
- Advanced ArcView (all single day classes).
- PowerPoint (Our class on PowerPoint and how to give an effective PowerPoint Presentation, a very popular class that has alot of applications with the tribes.

Our training staff is made up of very experienced GIS users who have been in the work force for a number of years. The manuals are designed to demonstrate the most common functions used in GIS. Our lectures are taught with GIS concepts and how to apply using ArcView. The manuals are easy to follow with the graphics displayed in the manuals for teaching.

What makes us Unique? We teach in their work place, we train using their geographic data and we focus our training using their Natural Resource issues. We work with groups over a time frame of 1-2 years and continually train the employees. Our repeat training helps to reinforce the material and in a

15 month period we have successfully trained new trainers to carry on the learning process. This is called sustainable training and our goal is to leave each tribe with a sustainable training program.

Why Native Americans? Social and income disparity for more than a century in this country has led to the decline of these people - ***Education is the key to success and self empowerment***

Still today there are issues (*ancestral land, boundary disputes and water rights*) that are being battled in court between government and big business (timber companies) and tribes. ***WE suggest ways to address these issues using the most up-to-date technology (GIS)***

What is our Program Success?

Working with three tribes in Northern California (Karuk, Hoopa, Yurok) and nine Northern Pueblo's in New Mexico. There is growing demand among tribal people to make use of current technologies (GIS, GPS) which enables them to manage their own resources.

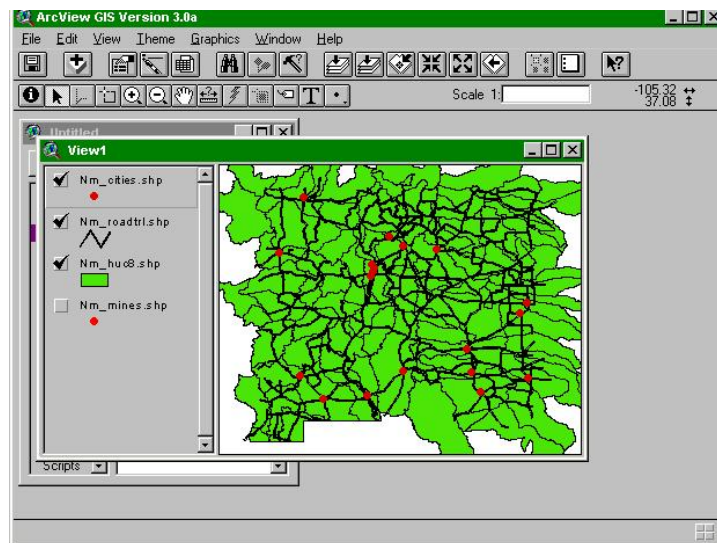
What are our deliverables?

- CD with all Course Training material (data, copy of manuals)
- Provide the students with GIS concepts, GIS terminology
- Offer to get software/hardware for free
- Provide Internet sites for data
- Offer on-going support and instruction after class via email and telephone

What is ESRI's ArcView GIS and what does it do?

- Integrating Data in a spatial sense
- Using visuals (maps) to produce images of places
- Using tables, graphs and charts to integrate the information

ArcView uses many forms of data information combined into one functional software. It is in a Windows' environment:



In closing I would like to leave you with two thoughts:

- 1) Indian land is worth taking caring of...its in rich natural resources: minerals, forests, water reserves. The fauna and floral are truly magnificent but they are becoming scarce! They need to be managed.
- 2) The managers need to be Native Americans. WE need to let them be the land stewards they were in the past when the Bureau of Indian Affairs governed their land. Through natural resource training and education we can help restore Native Americans back to their native jobs of land stewards.

History tells us that when people feel involved and empowered they take ownership. That is what we are about- our program Native American GIS Training. Empowering the people through education and training.